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Manh Choh Project

Solid Waste Management Plan

Revision 1

January 2023

Manh Choh Project
Tok, Alaska
Solid Waste Management Plan

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Tok, Alaska
Solid Waste Management Plan

1.0 Introduction

This Solid Waste Management Plan (Plan) is part of the overall environmental management system developed by Peak Gold, LLC (Peak Gold) for the Manh Choh Project (Project). This Plan addresses solid waste management during construction, operation, and closure phases of the Project, and will be updated when necessary as the project continues to develop.

2.0 Applicable Jurisdictions

The Project is located within close proximity to Tok, Alaska which is a census-designated place (CDP) in Southeast Fairbanks Census Area in the State of Alaska. Solid waste disposal is regulated by federal and state requirements.

The local municipal solid waste landfill (MSWL) is the Tok Landfill which is authorized and permitted as a Class III landfill by the Alaska Department of Environmental Conservation. The Tok Landfill is located at mile 120.5 Glenn Highway (Tok Cutoff).

All solid waste generated at the Project by construction, operation, and closure activities will be disposed of at the Tok Landfill or other authorized facility and/or recycled. Clean combustible materials (e.g., clean wood, cardboard, and paper) may be burned in a burn pit, if needed, at the Project site (field located during the Project's construction and operation phases) should recycling efforts become impracticable. Since combustible materials (clean wood, cardboard, paper) burned in a burn pit and the ash is inert, the potential for leachate contamination to groundwater is minimal. Furthermore, the burn pit (if needed) will be designed to protect the environment with the ash being removed after each burning event and transported to the local MSWL for disposal. The burn pit will be located at least 100 feet from any surface water body, greater than 200 feet from any surface drinking water source and all surface water runoff will be diverted away or around the burn pit to minimize infiltration. Additionally, the burn pit bottom will be located more than 10 feet above existing or expected future groundwater table. The burn pit will be removed after mine site closure.

3.0 Types of Waste

Waste materials from the Project will be managed as described in the following sections.

3.1 Recyclable Materials

Peak Gold's waste reduction strategy includes reuse and recycling of as many materials as possible. The following are examples of spent materials (not all inclusive) that may be recycled.

- wood (e.g., pallets, shipping crates),
- cardboard,
- paper,
- vehicle and heavy equipment batteries,
- rechargeable radio batteries,
- rechargeable hand tool batteries,
- used oil and grease,
- lamps,
- coolant (ethylene and propylene glycol),
- electronics, and
- scrap metal(e.g., steel, copper, aluminum, lead wheel weights).

3.2 Solid Waste

Inert office refuse and non-recyclable, non-putrescrible items such as cardboard boxes, packaging materials, wooden shipping materials, plastic sample bottles and containers, non-recyclable metal materials, tires, and steel drums will be managed, depending on the nature of the material, in one of the following four ways. Appendix A identifies the anticipated waste streams of the Project and will be updated as needed.

1. **Offsite Disposal:** Anticipated solid waste generated by the mining contractor and Peak Gold, LLC is identified in Attachment A will be disposed of offsite at the Tok Landfill or other ADEC permitted municipal solid waste landfill (e.g., Delta Junction Landfill, Fairbanks South Cushman Landfill, Glennallen Landfill) should the Tok Landfill is unable to accept waste from Manh Choh. Only spent equipment tires are anticipated for offsite disposal at the Fort Knox Mine with approval from ADEC and ADNR.

2. **Open Burning:** The designated open burning area (burn pit), if it is determined to be needed, will be field located at the Project site. The burn pit, if needed, will be designed for protection of the environment, constructed above groundwater,and protected from storm water run-off. Clean pallets, shipping crates, cardboard, brush, and paper are the only materials to be managed in the burn pit. Burn pit management will prohibit black smoke during the burning of the inert material in accordance with 18 AAC §50.065 regulations. Signage will be placed and maintained at the burn pit specifying what is unacceptable and acceptable for burning.

    a. The following is prohibited from discarding and burning in a burn pit:
        i. asphalts
        ii. rubber products
        iii. plastics
        iv. tars
        v. oils
        vi. oily wastes
        vii. contaminated oil cleanup materials
        viii. other materials in a way that give off black smoke

b. Ash will be characterized and managed as solid waste or hazardous waste in accordance with EPA requirements for generators of solid waste (40 CFR §260 – §262).
    i. Ash characterization will be performed annually to verify the ash is a non-hazardous waste. An ash sample will be collected and sent offsite to an authorized laboratory for Resource Conservation Recovery Act (RCRA) 8 metals (e.g., arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver) toxicity characteristic leaching procedure (TCLP) analyses. No other analyses is necessary due to process knowledge, and the knowledge of the products used at the site.
        1. The ash is not a hazardous waste from non-specific and specific sources (40 CFR §261.31 – §261.31).
        2. The ash is not discarded commercial chemical producs, off-specification species, container residues, and spill residues thereof (40 CFR §261.33).

3. **Smart Ash Burners:** Smart Ash Burners will be used to burn rags, absorbent pads and materials contaminated with petroleum hydrocarbons and coolant. The Smart Ash Burner Operating and Maintenance Manuel is located in Appendix B. Ash from the burners will be left in barrels and disposed of at the Tok Landfill or other authorized facility. The burners will comply with the visible emissions standard of 18 AAC 50.050(a) and all other applicable standards.

    a. Ash will be characterized and managed as solid waste or hazardous waste in accordance with EPA requirements for generators of solid waste (40 CFR §260 – §262).
        i. Ash characterization will be performed at the time the Smart Ash Burner barrels are full of ash and needing offsite disposal to verify the ash is a non-hazardous waste. An ash sample will be collected and sent offsite to an authorized laboratory for Resource Conservation Recovery Act (RCRA) 8 metals (e.g., arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver) toxicity characteristic leaching procedure (TCLP) analyses. No other analyses is necessary due to process knowledge, and the knowledge of the products used at the site.
            1. The ash is not a hazardous waste from non-specific and specific sources (40 CFR §261.31 – §261.31).
            2. The ash is not discarded commercial chemical producs, off-specification species, container residues, and spill residues thereof (40 CFR §261.33).

4. **Recycling:** Efforts will be made to recycle discarded materials from the Manh Choh site which is approximately 200 miles from the nearest recycling facility in Fairbanks and Anchorage. If it is determined that recycling is impractical, the discarded materials will be properly managed in accordance with state and federal regulations. Refer to Section 3.1 and Appendix A for the list of materials that may be recycled.

3.3 Oily Solid Waste

Used oil filters will be crushed with a commercial crusher capable of collecting the filters' liquid residue. Crushed filters will be placed in a drip pan to ensure used oil is no longer dripping from the crushed filters. After visually inspecting that crushed filters are not dripping oil, they can either be landfilled at the Tok Landfill or other ADEC permitted municipal solid waste landfill or managed for metal recycling. Used oil from filter crushing will be managed as used oil. Oily rags and used absorbent materials will be incinerated in Smart Ash Burners.

3.4 Hazardous Waste, Spill Contaminated Waste and Liquid Waste

Neither hazardous, contaminated, nor liquid wastes will be disposed of at the Manh Choh Project and will be managed and disposed of in accordance with federal and state regulations.

Spill related contaminated rock/soil materials (Attachment A) will be disposed of offsite either at the NRC Moose Creek thermal treatment facility or used as stemming for Manh Choh's blast hole preparation with ADEC approval. Spill procedures are identified in the Project's Spill Prevention Control and Contermeasures Plan (SPCC).

Septage from sewage holding tanks or or portable toilets will be periodically removed by the local commercial pumping service and disposed of at the Tok Landfill facility in accordance with the commercial pumping services and DEC approved procedures.

All hazardous wastes will be managed in accordance with the Resource Conservation and Recovery Act (RCRA) requirements. Any hazardous waste generated at the Project will be shipped offsite to an EPA permitted hazardous waste disposal facility. All materials will be managed in accordance with applicable regulations.

Container contents will be removed during its use as a product whether by pouring or pumping. All containers not being reused will be empty as defined by 40 CFR §261.7(b) before being crushed with a commercial crusher and aerosol can puncturing unit (examples shown below). Container bungs/plugs/caps/lids will be removed from the container, will be further emptied, and the liquid collected for use or disposal. Once liquids are drained from the container, the container will be placed with the top down in the crusher. Any liquid residue remaining in a container will be captured in the crusher's drip pan or liquid residue container during the container's crushing, and the liquid managed accordingly. Thus, residual fluids are removed from containers to the extent practical before crushed containers are landfilled or recycled.

Examples of commercial container crushers and aerosol can puncture unit:

55-Gallon Drum Crusher

Small Container Crusher

Can & Pail Crusher

Oil Filter Crusher

Aerosol Can Puncture

4.0 Burn Pit Location, Design, and Construction

The burn pit, if it is determined to be needed, will be field located at the time of the Project's construction and operation activities. The burn pit will be designed for protection of the environment, constructed above groundwater,and protected from storm water run-off.The burn pit will be designed and constructed a minimum of 10 feet above groundwater in accordance with 18 AAC §60.217. Groundwater is approximately 100 – 250 feet below ground surfaces at the mine site as identified by baseline groundwater data. Furthermore, ash will be removed from the pit after each burning event and transported to the local municipal solid waste landfill (MSWL) for disposal. Additionally, the burn pit bottom will be located greater than 10 feet above existing or expected future groundwater table. The burn pit will be removed after mine site closure during the site's reclamation.

Signs will be places indicating conditions of use and what types of waste are acceptable for the placement in the burn pit. Scavenging or salvage of waste materials from the burn pit is prohibited to protect the health and safety of personnel. Human access to the burn pit is limited to Project vehicles and personnel by the Project's security system, which includes the Project's remoteness, a security gate, and limited access to the Project. Animal access to the burn pit is controlled by refraining from disposing of anything that will attract animals.

5.0 Operation

The burn pit ash will be removed after each burn event and transported to the local MSWL for disposal.

Clean pallets, shipping crates, cardboard, brush, and paper are the only materials to be disposed of in the burn pit. Black smoke is prohibited while burning this inert material. Open burning will be conducted in accordance with the regulations of the State of Alaska Department of Environmental Conservation (18 AAC §50.065) and State of Alaska Department of Natural Resources, Division of Forestry (11 AAC §95.400 – 495).

In the event of an unauthorized fire, Project personnel have access to hand held fire extinguishers. In addition track dozers, motor graders, loaders and water trucks will be available for use in fire suppression.

Any litter, windblown or otherwise, in the areas around the burn pit and infrastructure complex will be picked up after spring break up and monthly thereafter during the summer months.

All incidents involving accidental fires at the burn pit, wildlife problems, litter or other unusual activities at the burn pit are to be reported to Safety/Security and the Environmental Department. The appropriate supervisor will respond depending on the incident.

6.0 Closure

At closure of the Project, the burn pit will be removed and will occur during reclamation activities of the mine site. Reclamation activities will be performed in conformance with the Project Reclamation and Closure Plan. Therefore, no solid waste landfill will remain at the Project site. The location of the removed burn pit will also be included in the reclamation and closure reports that will be submitted to ADEC, ADNR, and Tetlin.

7.0 Monitoring and Recordkeeping

The burn pit, if it is determined to be needed, will be designed for protection of the environment, constructed above groundwater,and protected from storm water run-off. The burn pit will be constructed a minimum of 10 feet above groundwater in accordance with 18 AAC §60.217. Groundwater is approximately 100 – 250 feet below ground surfaces at the mine site.

No special groundwater or surface water monitoring is planned for the burn pit area, except for the Project's storm water pollution prevention plan (SWPPP) best management practices (BMPs).

Since the burn pit is limited to inert waste suitable for open burning followed by removal of ash after each burn event, no special groundwater or surface water monitoring is planned for the pit.

Overall surface water and groundwater monitoring for the Project is described in the Manh Choh Monitoring Plan, Revision 1, November 2022.

Weekly inspections are performed by Environmental Department personnel to ensure the burn pit is operated properly and in compliance with the ADEC Waste Management Permit. Weekly inspection logs will be maintained by the Environmental Department. Non-approved burn pit waste discovered in the burn pit during routine inspections will be removed and properly disposed of. The Environmental Department will determine the responsible department and notify the proper manager to inform personnel to remove the unauthorized material and proper waste disposal procedures.

All inspection and location records are maintained by the Environmental Department.

APPENDIX A
Manh Choh Projected Waste Streams

Manh Choh Project - Projected Waste Streams
Mining Contractor and Peak Gold, LLC

No.	Description	Type of US EPA & Alaska Waste	Disposal Option(s)	Recycle Option(s)
1	Petroleum releases from equipment onto >2" rock material	Solid Waste	Transport NRC Moose Creek with ADEC and ADNR approvals.	Blast Hole stemming material after crushing with ADEC approval.
2	Petroleum releases from equipment onto ≤2" gravel/soil	Solid Waste	Transport offsite to NRC Moose Creek thermal treatment facility with ADEC and ADNR approvals.	Blast Hole stemming material after crushing with ADEC approval.
3	Coolant releases from equipment onto > 2" rock material	Solid Waste	Transport NRC Moose Creek with ADEC and ADNR approvals.	Blast Hole stemming material after crushing with ADEC approval.
4	Coolant releases from equipment onto ≤2" gravel/soil	Solid Waste	Transport offsite to NRC Moose Creek thermal treatment facility with ADEC and ADNR approvals.	Blast Hole stemming material after crushing with ADEC approval.
5	Adsorbent pads and pillows from petroleum and coolant spill cleanup	Solid Waste	Onsite SmartAsh cyclonic barrel burner and the burner ash disposed of at Tok municipal solid waste landfill. Or Transport non-burned material offsite to NRC Moose Creek thermal treatment facility.	None
6	Petroleum contaminated rags and gloves during daily operations and maintenance processes	Solid Waste	Onsite SmartAsh cyclonic barrel burner and the burner ash disposed of at Tok municipal solid waste landfill. Or Transport non-burned material offsite to NRC Moose Creek thermal treatment faciltiy. Tok muncipal solid waste landfill.	None
7	Spent tires from heavy equipment: Cat 777 haul trucks, rubber tired dozier, loader, grader	Solid Waste	Tok MSWLF, other approved MSWL or Fort Knox Waste Rock Dump with ADEC and ADNR approvals.	Onsite tire shredding and ship to Central Recycling Services in Anchorage or ship to lower 48. Ship whole tire to Central Recycling Services in Anchorage or ship to lower 48.
8	Wood dunnage (shipping containers, pallets, construction, etc)	Solid Waste	Burn Pit with Tetlin and ADEC approvals. Tok municipal solid waste landfill or other authorized MSWL.	Ship to Central Recycling Services in Anchorage as long as the wood is clean (not painted, treated, stained, or contaminated with hazardous materials and petroleum. Reuse pallets with vendor. Provide to local residents for home heating.
9	Empty metal containers, drums, barrels from 1-gallon to ≥55-gallon. Product specific containers managed separately for instance oils, paints, cleaners, coolants, etc.	Solid Waste	Crush containers using a commercial crusher. Send crushed containers to Tok MSWL or other authorized MSWL. Container contents will be removed during its use as a product whether by pouring or pumping. All containers not being reused will be empty as defined by 40 CFR §261.7(b) before being crushed with a commercial crusher. Container bungs/plugs/caps/lids will be removed from the container, will be further emptied, and the liquid collected for use or disposal. Once liquids are drained from the container, the container will be placed with the top down in the crusher. Any liquid residue remaining in a container will be captured in the crusher's drip pan during the container's crushing, and the liquid managed accordingly. Thus, residual fluids are removed from containers to the extent practical.	Ship crushed metal to Central Recycling Services in Anchorage. Ship crushed metal to C&R Metal Recycling in Fairbanks.

10	Crushed container liquids	Solid Waste or Hazardous Waste dependant upon waste characterization	Send to disposal facility that is permitted for solid waste or hazardous waste disposal. No hazardous waste facilities in Alaska, must be shipped to lower 48.	Recycle used oils and burn in onsite used oil heaters. Ship offsite to used oil marketer either in Anchorage or Fairbanks. Spent coolant recyled with NRC in Anchorage. Flammable hazardous waste liquids is used for fuel blending in the lower 48 permitted facilities.
11	Used oil	Used Oil	Ship offsite to incinerator facility in lower 48.	Fuel for onsite used oil heaters. Ship to offsite used oil marketer in Tok, Anchorage or Fairbanks.
12	Used coolant	Solid Waste	Ship offsite to incinerator facility in lower 48.	Ship to NRC in Anchorage for recycling. Use an onsite recovery/recondition system and reuse in equipment.
13	Spent oil filters - any size	Solid Waste	Use filter crusher to collect residue oil from filter during crushing. Send crushed filters to Tok MSWL or other authorized MSWL.	Ship crushed filters to Central Recycling Services in Anchorage. Ship crushed filters to C&R Metal Recycling in Fairbanks.
14	Used oil from filter crushing	Used Oil	Ship offsite to incinerator facility in lower 48.	Fuel for onsite used oil heaters. Ship to offsite used oil marketer in Tok, Anchorage or Fairbanks.
15	Used grease	Used Oil	Ship offsite to incinerator facility in lower 48.	NRC fuel blending in lower 48
16	Spent aerosol cans	Solid Waste	Puncture aerosol cans with a puncturing device that collects any liquids in aerosol cans before disposal at Tok MSWL or other authorized MSWL.	Ship punctured metal aerosol cans to Central Recycling Services in Anchorage. Ship punctured metal aerosol cans to C&R Metal Recycling in Fairbanks.
17	Spent aerosol can puncturing liquid	Hazardous Waste	Liquid is typically flammable hazardous waste that is disposed of at a hazardous waste permitted disposal facility in the lower 48.	Fuel blended at a facility permitted to fuel blend flammable liquid hazardous waste in the lower 48.
18	Spent equipment parts and hoses	Solid Waste	Parts and hoses drained of all liquids and manage liquids as identified in above waste streams. Disposal at Tok MSWL or other authorized MSWL.	Clean metal parts shipped to Central Recycling Services in Anchorage. Clean metal parts shipped to C&R Metal Recycling in Fairbanks. Parts exchange with vendor. No recycling of hoses.
19	Contaminated diesel fuel	Used Oil	Ship offsite to incinerator facility in lower 48.	Blend with used oil and use as fuel for used oil heaters. Ship to offsite used oil marketer in Tok, Anchorage or Fairbanks.
20	Contaminated gasoline	Hazardous Waste	Ship offsite to EPA permitted disposal facility in lower 48.	Fuel blended at a facility permitted to fuel blend flammable liquid hazardous waste in the lower 48.
21	Spend parts washer solution	Solid Waste or Hazardous Waste dependant upon waste characterization	Ship offsite to appropriate permitted disposal facility; typically in the lower 48.	Ship to NRC in Anchorage for possible recycling/recovery.
22	Paper and cardboard	Solid Waste	Burn pit with Tetlin and ADEC approvals. Tok municipal solid waste landfill.	Use a commercial compactor to bail cardboard. Ship to Central Recycling Services in Anchorage.
23	Metals: aluminum cans, aluminum parts & wire, copper, steel, welding rods, etc.	Solid Waste or Scrap Metals Recycling dependent upon management of metals	Send to Tok MSWL or other authorized MSWL.	Ship to Central Recycling Services in Anchorage. Ship to C&R Metals Recycling in Fairbanks.
24	Lead wheel weights	Metals Recycling	No landfill disposal allowed.	Re-use weights or recycle with metals recycling facility in Anchorage or Fairbanks

25	Food stuffs: packaging, plastic/glass bottles, food waste	Solid Waste	Send to Tok MSWL or other authorized MSWL.	None
26	Spent lead acid batteries: wet, sealed, gel	Solid Waste	Ship offsite to permitted disposal facility as hazardous waste.	Vendor exchange for recycling.
27	Spent non-lead acid batteries; NiCad, Lithium-ion, Lithium, Ni Mh, Mercury, Silver Oxide,	Universal Waste	No landfill disposal allowed.	Ship to NRC in Anchorage for metal recycling.
28	Spent alkaline batteries	Solid Waste	Send to Tok MSWL or other authorized MSWL.	Ship to NRC in Anchorage for metal recycling.
29	Spent fluorescent lamps	Solid Waste or Universal Waste dependent upon mercury concentrations	No landfill disposal allowed.	Ship to NRC in Anchorage for recycling.
30	Spent LED lamps	Solid Waste	Send to Tok MSWL or other authorized MSWL.	Ship to NRC in Anchorage for recycling.
31	Spent mercury-vapor lamps	Universal Waste	No landfill disposal allowed.	Ship to NRC in Anchorage for recyling.
32	Spent sodium-vapor lamps	Universal Waste	No landill disposal allowed.	Ship to NRC in Anchorage for recyling.
33	Spent electronics: anything that contains a circuit board such as computers, printers, radios, cell phones, testing/monitoring equipment, microwaves, fax machines, etc.	Scrap metals for recycling	No landfill dispoal allowed.	Ship to manufacturer for metals recycling. Vendor exchange program. Ship to NRC in Anchorage for recycling.
34	Water and soil sampling/monitoring waste: PPE, wipes, hoses, bottles	Solid Waste	Send to Tok MSWL or other authorized MSWL.	None
35	Restroom trash	Solid Waste	Send to Tok MSWL or other authorized MSWL.	None
36	Domestic sewage	Sewage Sludge	Septic system. Portable toilets serviced by a local vendor. Collection tanks serviced by a local vendor.	None
37	Janitor cleaning product empy containers	Solid Waste	Rinse containers with water and send to Tok MSWL or other authorized MSWL.	None
38	Janitor cleaning rags/towels	Solid Waste if discarded	Send to Tok MSWL or other authorized MSWL.	Laundry and reuse
39	Food stuff garbage: food stuffs, food scraps, containers (plastic, paper, glass, cardboard), etc	Solid Waste	Send to Tok MSWL or other authorized MSWL.	None
40	General trash: plastics, paper, cardboard, glass, office trash	Solid Waste	Send to Tok MSWL or other authorized MSWL.	Recycle efforts may be minimal and non-economical in the Tok area.
41	Medical waste: used hypodermic needles (sharps), blood-soaked bandages, compresses, contaminated gloves or other protective maerials.	Alaska - Medical Waste, US DOT Transporation of Medical Waste	Contract with Sericycle in Anchorage. Contact medical clinic in Tok for disposal. Contact Fairbanks Memorial Hospital for disposal.	None

APPENDIX B
Smart Ash Burner Operating Instructions

ELASTEC AmericanMarine

OPERATION AND SERVICE MANUAL

www.elastec.com

SmartAsh Cyclonic Barrel Burner

D-044 Rev-006

ELASTEC AmericanMarine

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ELASTEC
AmericanMarine

WARRANTY

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Elastec, Inc warrants these products against defects in material and workmanship under normal use and service for a period of **Six Months**.

Elastec Inc.'s obligation under this warranty is limited solely to repairing or replacing parts, which in its judgment are defective in material and/or workmanship.

We shall not be liable for expenses incurred in repairs or alterations made outside our factory in Carmi, Illinois or licensed dealer locations, without our prior authorization, nor shall we be responsible for the performance of this product to which any revisions or alterations have been made by others.

We shall not be, in any event, liable for damages or delays, nor for any consequential, special, or contingent damages for breach of warranty.

CONTACT INFORMATION

Elastec/American Marine
1309 West Main Street
Carmi, IL 62821
USA

Telephone: +1 (618) 382-2525
Fax: +1 (618) 382-3610
E-mail: elastec@elastec.com
Website: www.elastec.com

ELASTEC AmericanMarine

INTRODUCTION

www.elastec.com

This manual contains information on the operation and maintenance of the SmartAsh Cyclonic Barrel Burner manufactured by Elastec / American Marine. All data in this publication is based on the latest product information.

Elastec / American Marine reserves the right to make changes at any time without notice and without incurring any obligations.

If a problem is encountered, or if you have questions about your Elastec / American Marine equipment, please call one of our consultants at **(618) 382-2525**.

Elastec / American Marine products are designed to provide safe and dependable service when operated according to instructions. It is important to read and understand this manual before operating this system. Failure to do so may result in personal injury or equipment damage.

Your Serial Number is _____

✦ **SERIAL NUMBER MUST BE INCLUDED WHEN ORDERING PARTS.**

WARNING: Not for use with materials containing liquids such as gasoline or paint thinners. All materials must have a flash point higher than 100 degrees Fahrenheit (38 degrees Celsius)!

ELASTEC AmericanMarine

PRODUCT DESCRIPTION

www.elastec.com

The air powered SmartAsh uses no external fuel. Simply load a 55 gallon (208 liter), open head steel drum, light the load, and clamp on the lid. A whirlwind of fire and intense heat is created inside the drum, burning your refuse with no smoke and no smell. Thousands of satisfied customers are currently using SmartAsh around the world to eliminate a wide variety of burnable waste materials. Combustion is complete, leaving ash equal to 3% by volume of the original load.

Refer to Components Identification found on Page #5 to identify the major components to be discussed in this manual. Listed below are some of those components:

- Blowers: Two blowers behind the motor cover draw air into the plenum. The air feeds to the drum through the air hose and lid.
- Spark Screen and Spark Deflector: The lid has two elements to block emissions of burning material: the spark screen on top and the internal spark deflector which can be seen beneath the exhaust vent in the lid.
- Clamps: Four clamps hold the lid in place during burning.
- Port Hole and Port Hole Cover: The porthole can be found on the lid and can be closed by rotating the cover back into place.

  CAUTION: If unit has been in operation, the porthole cover will be hot. Use the end of the stir rod to close to avoid injury.

- Air Shutter Control: Regulates air flow and controls the blower output.
- Saf-Start Unit: Safety device that prevents SmartAsh from restarting automatically after a power disturbance or interruption even if the switch is left in the "On" position.

Before the first burn, the operator should practice mounting the lid on the drum and securing it with the clamps. It is also a good idea to walk through the ignition procedure a few times prior to the first burn to become acquainted with the operation of the system.

ELASTEC AmericanMarine

SAFETY PRECAUTIONS

www.elastec.com

To avoid accident or injury, please follow these safety precautions:

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. Care should be taken to ensure this product is disconnected from the power source when there is a chance water may come in contact with the electrical connection.
4. Operator must ensure the SmartAsh is on stable ground and in no danger of falling or tipping.
5. Operator must wear safety glasses and gloves at all times during operation.
6. The combustion system must stand free and clear of surrounding buildings, vegetation, or other combustible material. Please allow 10 feet (3 meters) of space. Care should be taken to ensure that no flammable items are above the emission screen.
7. Never touch the combustion chamber (steel drum) or lid while incinerating refuse.
8. Refer servicing to qualified personnel under the following conditions:
   - The power supply cord is frayed or damaged.
   - Liquid has been in contact with the electrical system.
   - The product has been damaged and exhibits a distinct change in performance.
9. Do not operate this product in the vicinity of flammable gases.
10. Aerosol or pressurized cans cannot be incinerated in this system.
11. If the operator is unsure if certain items can be safely incinerated, consult the manufacturer for details and instructions. Please refer to Page #1 for contact information.
12. Use only outdoor three-wire electric cord connected to a grounded outlet. Do not run cord over wet ground. Keep cord away from drum. If cord becomes damaged, replace immediately.
13. Ensure no aerosol cans are in the load.
14. Ensure clothing does not come into contact with drum or lid during burning.

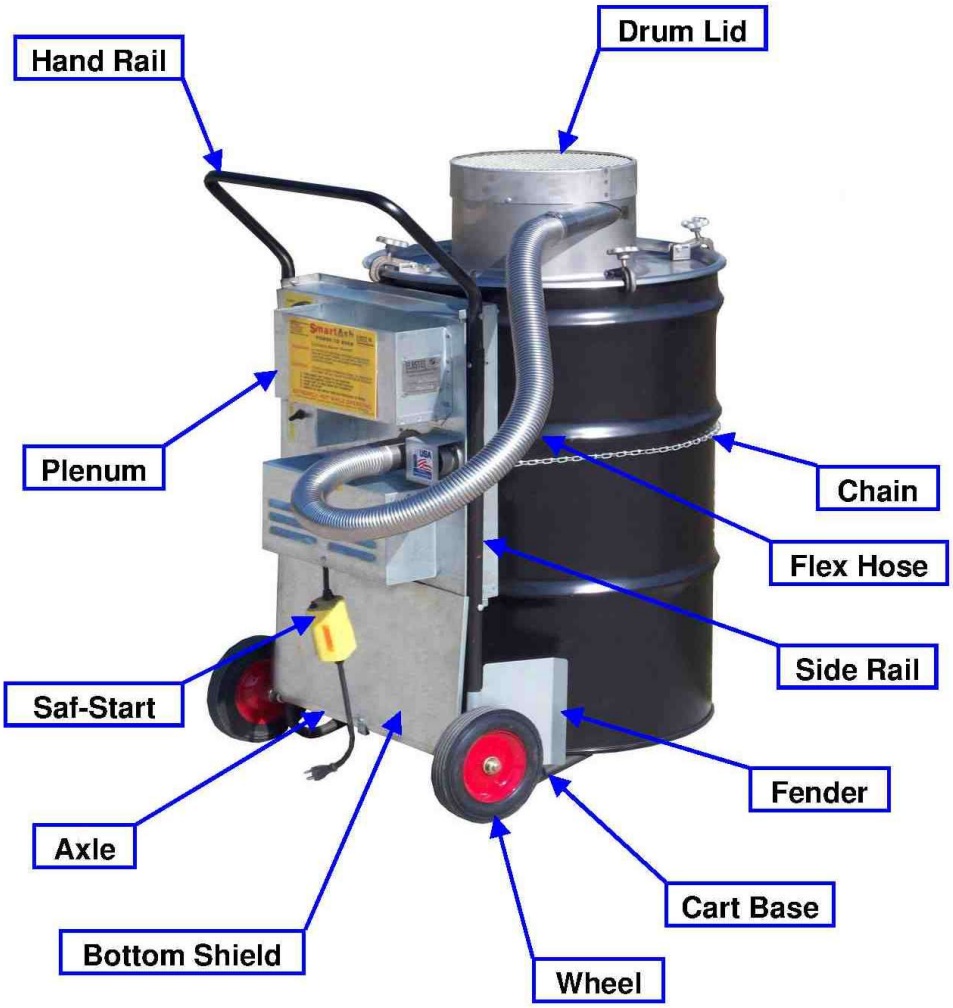
ELASTEC AmericanMarine

COMPONENT IDENTIFICATION

www.elastec.com

Tools Required: Hammer, Phillips Screwdriver, Adjustable Wrench (or 7/16" and 3/8" Sockets)

Components: Assembly Kit (2 Wheels, 2 Fenders, Chain, Fasteners), Plenum, Drum Lid, Flex Hose, Cord Lock, 2 Side Rails, Cart Base, Hand Rail, Bottom Shield, Axle, and Stir Rod (in 2 parts)



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SmartAsh ASSEMBLY

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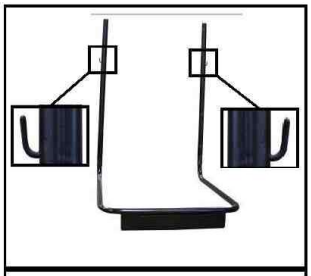
1. Place cart base on work surface.

2. Mount wheel and push nut onto wheel. Wheel has step shoulder on one side. Ensure shoulder is facing in toward axle.

3. Use hammer to drive on push nut.

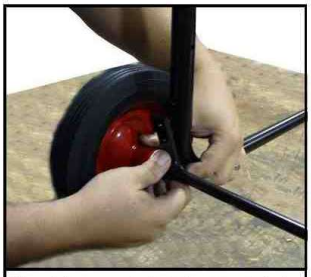
4. Repeat Steps #2 and 3 for second wheel to complete axle assembly.

5. Place axle assembly near open side of cart base. Ensure axle tabs are on the inside.



6. Ensure chain hooks are on the outside.

7. Ensure mounting holes are lined up in lower portion of side rail.



8. Line up axle tab mounting holes with side rail mounting holes.

9. Using (2) 1/4" bolts on each side, mount axle tabs to side rails.

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AmericanMarine

SmartAsh ASSEMBLY

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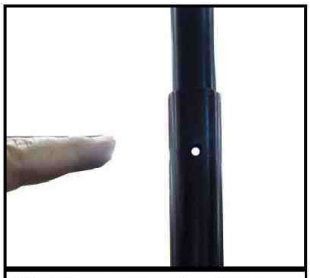
10. Install fender to side rail with 1-1/2 long screw using the top hole only. Fender flare is to the outside.

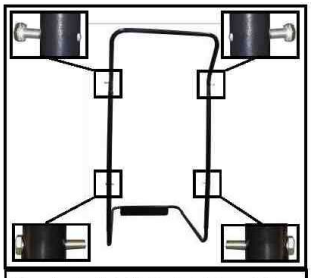
11. Repeat Step#7 for second fender.

12. Insert cart handle into side rails.



13. Ensure mounting holes are lined up in upper portion of side rail.

14. Use 1/4" screws and nuts to attach handle to side rails and tighten.



15. Install 1/4" bolts into side rails as shown. Lower bolts should be screwed in all the way; upper bolts through side rails only.

16. Slide bottom shield onto plenum as shown.

17. Ensure mounting holes are lined up and attach plenum to bottom shield using 2 screws.

18. Place plenum between side rails. This is a tight fit.

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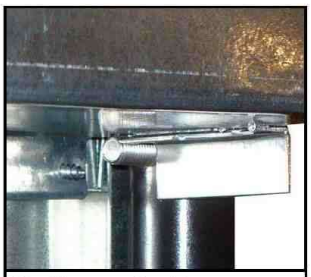
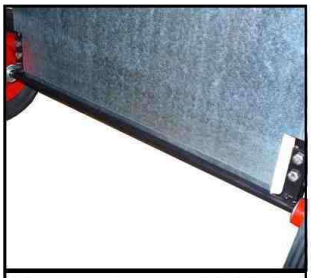
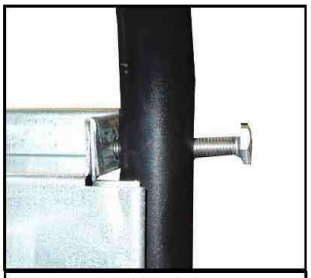


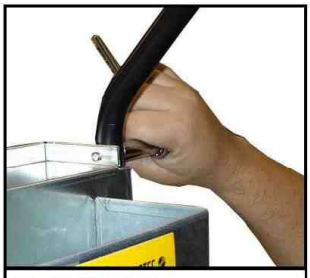
19. Plenum should rest on screws in lower side rails as shown.



20. Ensure bottom shield in in front of axle.



21. Install 1/4" bolt into upper-most portion in each side rail. Ensure bolt goes through plenum mounting hole.



22. Tighten bolt.

23. Repeat Steps #22 and #23 on other side.

24. Set open head drum onto cart.

25. Attach chain to hook as shown.

26. Wrap chain around barrel. Pull tight to remove any slack and attach to second hook.

27. Set drum lid on drum.

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28. Rotate clamps into position and tighten by turning knob.

29. Slide flex hose over snap button on 2 inch outlet on plenum.

30. Slide flex hose over snap button on 2 inch inlet on drum lid.

31. Install plug in cord lock.

32. Assemble stir rod by inserting upset end over straight end and push together.

33. See above for assembled unit.

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POWER SUPPLY SELECTION

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The first step in getting your SmartAsh ready is to determine the electrical power required for your particular unit (110 volt or 220 volt). You will then need to choose the correct electrical outlet for the unit. **NOTE: Choose an outlet with a 20 amp breaker or greater.** Due to the high amperage draw of the SmartAsh, it should be the only appliance on the circuit when possible. The 110-volt unit draws 27 amps at start-up and 14 amps during operation. The 220-volt unit draws 9 amps at start-up and 7 amps during operation.

Saf-Start mechanisms are installed on SmartAsh units to guard against improper restart of the unit after a power interruption has stopped the airflow.

Saf-Start is a very sensitive electrical control device. It will disengage when there is a power interruption or fluctuation in the power supply that is below recommended levels. It will even detect a split second fluctuation that is below the recommended levels.

In some instances, the power supply switch is turned on and the Saf-Start disengages due to an overloaded circuit. The operator may need to reduce the number of appliances on the circuit, use an outlet on a different circuit, or reduce the length of the extension cord used.

NOTE: The Saf-Start must be reset each time the unit is plugged in.

SELECTING A DRUM

- Use a standard open head 55 gallon drum in good condition.
- The lip must not be damaged.
- The drum lid will not fit a "de-headed" oil or chemical drum.
- Do not pierce holes in the drum.
- If the lid does not fit, the drum may be out of round. Check the drum and correct as follows:

1. Measure across top of drum in several directions. If there is a difference of more than 1/4 inch (6 millimeters) in measurements, the drum is out of round and needs adjustment.
2. To correct, place drum on its side with the "long" measurement vertical. Lean on the drum rim and use body weight to depress the rim.
3. Re-measure the drum and repeat the process until correction is made.

NOTE: If the drum is painted, it may smoke when used for the first time.

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REQUIRED ACCESSORIES

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REQUIRED ACCESSORIES

Three-wire, Outdoor Electrical Extension Cord
- Under 25 feet (15 meters) = No lighter than 18 ga
- Over 50 feet (30 meters) = No Lighter than 16 ga

Safety Glasses
Gloves (appropriate for hot surfaces)
Several Sections of Newspaper or Cardboard
Matches or Lighter

PREPARING TO BURN

1. Select a site at least 10 feet / 3 meters from buildings, hedges, and trees. Place SmartAsh on bare ground, gravel, or concrete. Do not burn on asphalt surfaces, lawn or ground with dry vegetation as drum bottom becomes very hot.
2. Position SmartAsh so cart, air supply, and operator are upwind and drum is downwind.
3. Connect SmartAsh plug to extension cord and cord to grounded electrical outlet. Depress the reset button on Saf-Start plug.

WARNING: To prevent accidental interruption of burning, install cord lock and arrange slack in cord beneath plug-in.

NOTE: If there is a power interruption during the operation of your SmartAsh unit, follow the steps below for restart:

1. Turn toggle switch to OFF position.
2. Move air control latch to start position.
3. Allow unit to cool down for 10 minutes.
4. Reset Saf-Start.
5. Remove lid and repeat ignition procedure as normal.

WARNING: Failure to observe these cautions may result in rapid internal combustion when air returns. This could cause damage to the drum lid or lip and could cause possible personal injury.

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SmartAsh OPERATION

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CAUTION: Operator must wear safety glasses and gloves at all times during operation.

1. When burning oil-soaked absorbents, place a layer of unused absorbents in the drum first. This will absorb free liquids that drain from oily materials during burn. Load the oily materials. Note: The drum has expanded rings that encircle it. These are called rolling hoops. Do not put load material above the top hoop. Ample space over the load encourages good start-up and efficient burn.

2. Prepare the load for ignition by adding a top layer of paper or cardboard. The paper supplies a fast, easy initial fuel source for start-up. If load appears difficult to ignite, lay a section of newspaper on top of the load with one corner in forward area. **WARNING: DO NOT USE GASOLINE TO START THE BURN.**

3. Place lid on drum with inlet pipe pointing to rear and the clamps resting on top of the lid. Lift lid and slide it to the rear between arms of cart handle, leaving front part of drum uncovered.

4. Insert air hose in lid.

5. Light prepared segment of paper. Turn on power.

6. When fire is established, grasp front and back lid handles and place lid on the drum.

7. Apply clamps as follows:
   - Lower all clamps to rim of lid.
   - Push all clamps inward toward drum. If clamp encounters resistance, it is because screw attached to hand wheel is sticking out below clamp and obstructing clamp movement. Correct by spinning hand wheel counterclockwise to retract screw.
   - When clamps are in position against drum, tighten all clamps evenly so that lid fits properly. This will ensure a good seal.
   - Clamps are in the correct position when the back end of the clamp is flush with back end of clamp mounting bracket.
   - When applying clamps, walk to the back of the unit from clamp to clamp to avoid the exhaust stream.

NOTE: Unit may briefly smoke until it reaches the operating temperature.

8. Take position behind the cart. Turn control latch slowly from “Start” to “Run” until visible and audible signs indicate fire is burning vigorously.

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TENDING BURN

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CAUTION: Operator must wear safety glasses and gloves at all times during operation.

The air control setting should be checked periodically during burn.

Advance control latch as far as possible without causing gusting or turbulence. If unstable conditions arise, turn control latch back slowly to "Start" position.

Optimum control latch setting produces vigorous yet smooth combustion.

TERMINATING BURN

1. Progress of the burn near termination can be judged by observation through the porthole or by insertion of the manufacturer-supplied Stir Rod into the porthole.

   CAUTION: Stir Rod is specially designed to prevent flame from traveling through rod during stirring. Do not use anything other than this rod to stir contents of burner during operation.

2. If drum interior is completely dark, or if the Stir Rod reaches the bottom of the drum without obstruction, the burn is usually complete.

3. Termination of burn is frequently indicated by a dusting or smoking episode.

4. If observation through the porthole reveals that fire is still present but only in part of the drum, the termination of the burn can be expedited by breaking up remaining clots of flame with stir rod.

5. When the burn is complete, the unit should be allowed to cool for several minutes. Avoid touching the clamps or porthole until unit has cooled. Be sure to wear gloves when removing the lid.

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BURNING ABSORBENT MATERIAL

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DO NOT BURN ABSORBENTS THAT CONTAIN VOLATILE LIQUIDS SUCH AS GASOLINE.

DO NOT BURN MATERIALS WITH A FLASH POINT LOWER THAN 100 DEGREES FAHRENHEIT (38 DEGREES CELSIUS).

Before loading oily absorbents, load drum with a layer of new absorbent material. They should cover the bottom of the drum and be approximately one to three inches deep.

Do not burn absorbents that are over saturated with oil. Allow them to drain. If oil liquids are present, add more absorbent material.

Do not attempt to burn absorbents that are water-soaked, even if they are mostly soaked with oil. Allow the water to drain away.

An ample amount of paper or cardboard must be used as starter fuel to generate the heat required to sustain a fast quality burn.

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PARTS LIST FIGURE 1

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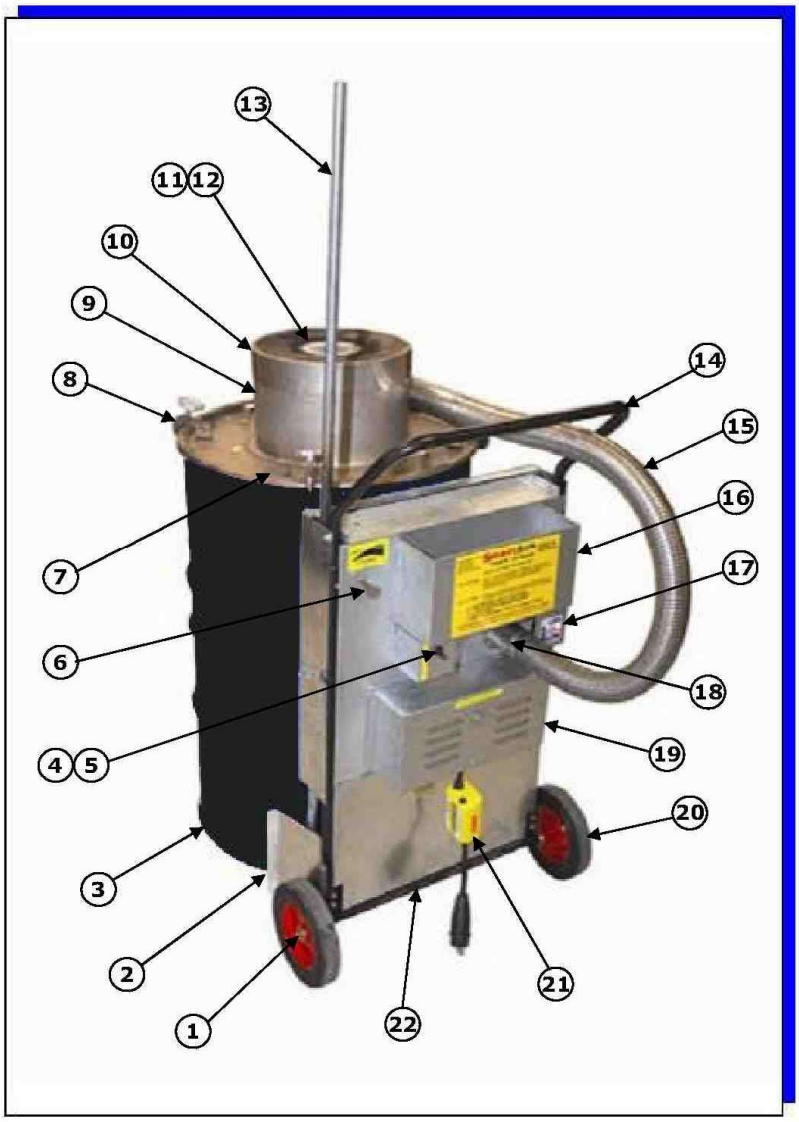

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110v & 220v PARTS LISTS

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110v Parts List

Item#	Part #	Description
1	4AXLENU010	Axle Push Nut
2	4FENDCA010	Fender
3	4DRUMOP012	Open Head Drum (Optional)
4	4SWITTO010	Toggle Switch 110v
5	4BOOTTO001	Toggle Switch Boot
6	4LATCAI010C	Air Shutter Control
7	4COVEST010	Stir Port Cover
8	0KIT-LI510	Lid Clamp Assembly
9	4LID-DR010	Drum Lid Assembly
10	4BANDTO001C	Top Band S/S
11	4SPACSC010	Screen Spacer
12	4SCRESP010	Spark Screen
13	4ROD-ST000	Stir Rod
14	4CARTSM010C	Cart SmartAsh Assembly
15	4HOSEFL708	Flex Hose S/S 45"
16	4PLEN--110C	Plenum Box Assembly
17	4COVEAI010	Air Port Cover
18	4AIRP-036C	Air Port 2-1/4"
19	4COVEBL010	Blower Cover
20	4WHEECA010	Cart Whee
21	0KIT-SA110	Saf-Start Kit
22	4AXLECA080	Axle
23*	4LOCCO010	Cord Lock (Not Shown)
24*	4SHIEBO010	Bottom Guard (Not Shown)

220v Parts List

Item#	Part #	Description
1	4AXLENU010	Axle Push Nut
2	4FENDCA010	Fender
3	4DRUMOP012	Open Head Drum (Optional)
4	4SWITTO010	Toggle Switch 110v
5	4BOOTTO001	Toggle Switch Boot
6	4LATCAI010C	Air Shutter Control
7	4COVEST010	Stir Port Cover
8	0KIT-LI510	Lid Clamp Assembly
9	4LID-DR010	Drum Lid Assembly
10	4BANDTO001C	Top Band S/S
11	4SPACSC010	Screen Spacer
12	4SCRESP010	Spark Screen
13	4ROD-ST000	Stir Rod
14	4CARTSM010C	Cart SmartAsh Assembly
15	4HOSEFL708	Flex Hose S/S 45"
16	4PLEN--220C	Plenum Box Assembly
17	4COVEAI010	Air Port Cover
18	4AIRP-036C	Air Port 2-1/4"
19	4COVEBL010	Blower Cover
20	4WHEECA010	Cart Wheel
21	0KIT-SA220	Saf-Start Kit
22	4AXLECA080	Axle
23*	4LOCCO010	Cord Lock (Not Shown)
24*	4SHIEBO010	Bottom Guard (Not Shown)

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SPECIAL 110v PARTS LIST

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In this version of the SmartAsh Cyclonic Barrel Burner, the plenum has been designed to allow the unit to be wall-mounted. This eliminates the need for the cart assembly. The length of the flex hose that connects the plenum assembly to the drum top has been increased as well. If you plan to use the SmartAsh Cyclonic Barrel Burner in one fixed location, this would be a good choice.

Parts List

Item#	Part #	Description
3	4DRUMOP012	Open Head Drum (Optional)
4	4SWITTO010	Toggle Switch 110v
5	4BOOTTO001	Toggle Switch Boot
6	4LATCAI010C	Air Shutter Control
7	4COVEST010	Stir Port Cover
8	0KIT-LI510	Lid Clamp Assembly
9	4LID-DR010	Drum Lid Assembly
10	4BANDTO001C	Top Band S/S
11	4SPACSC010	Screen Spacer
12	4SCRESP010	Spark Screen
13	4ROD-ST000	Stir Rod
15	4HOSEFL716	Flex Hose S/S 96"
16	4PLENSP110C	Plenum Special Assembly
17	4COVEAI010	Air Port Cover
18	4AIRP-036C	Air Port 2-1/4"
19	4COVEBL010	Blower Cover
21	0KIT-SA110	Saf-Start Kit
23*	4LOCCO010	Cord Lock (Not Shown)

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SPECIAL 110v PARTS LIST

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In this version of the SmartAsh Cyclonic Barrel Burner, the plenum has been designed to allow the unit to be wall-mounted. This eliminates the need for the cart assembly. The length of the flex hose that connects the plenum assembly to the drum top has been increased as well. If you plan to use the SmartAsh Cyclonic Barrel Burner in one fixed location, this would be a good choice.

Parts List		
Item#	**Part #**	**Description**
3	4DRUMOP012	Open Head Drum (Optional)
4	4SWITTO010	Toggle Switch 110v
5	4BOOTTO001	Toggle Switch Boot
6	4LATCAI010C	Air Shutter Control
7	4COVEST010	Stir Port Cover
8	0KIT-LI510	Lid Clamp Assembly
9	4LID-DR010	Drum Lid Assembly
10	4BANDTO001C	Top Band S/S
11	4SPACSC010	Screen Spacer
12	4SCRESP010	Spark Screen
13	4ROD-ST000	Stir Rod
15	4HOSEFL716	Flex Hose S/S 96"
16	4PLENSP110C	Plenum Special Assembly
17	4COVEAI010	Air Port Cover
18	4AIRP-036C	Air Port 2-1/4"
19	4COVEBL010	Blower Cover
21	0KIT-SA110	Saf-Start Kit
23*	4LOCCO010	Cord Lock (Not Shown)

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REPLACEMENT PARTS

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Parts List	
Part #	**Description**
0KIT-SP110	Spare Parts Kit (For 110V)
0KIT-SP220	Spare Parts Kit (For 220V)
4SCRESP010	Spark Screen
0KIT-MO010	Replacement Motor (For 110v Version)
0KIT-MO020	Replacement Motor (For 220v Version)
0KIT-AI820	Air Port Kit
4FILTHO010	Filter Holder
0KIT-FI072	Filter Kit
4KEEPPFI010	Filter Keeper
4AIRP-020	Air Port 1-1/4"
4BRACSW000	Switch Bracket
4DEFLSP010	Spark Deflector Assembly
4CAP-SM010	Cover Cap
0KIT-SN010	Snap Button Kit
4CHAIDO010	Double Loop Chain
4GRATSM010	Grate Complete (Optional)

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PREVENTIVE MAINTENANCE

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WARNING: Unit must be disconnected from power source before performing any maintenance.

REMOVING MOTORS

1. Place air supply on flat surface with the motor side facing up. Remove motor cover.
2. Unscrew nuts holding switch in place and drop switch back through mounting hole into air supply interior.
3. Remove screws holding motor mounting plate in place on air supply. Remove motor assembly which consists of the motor plate, two motors, switch, and wiring.
4. Remove long screw from motor plate that supports motor cover. To do so, hold nut on screw with needle nose pliers or 3/8 inch open wrench. Loosen screw with screwdriver and turn nut off screw with fingers. Remove screw from motor plate and attach nut to screw.

AIR FILTERS

Check conditions of air filters located on motors frequently.

1. Remove motor cover on back of air supply by removing wing nut .
2. Pry retaining harness off pegs and lift out filter.
3. Clean air filter by using the unit's air hose. Hold clean side of filter to the air hose and blow dirt away. Replace if blocked or damaged.

EXTERNAL SPARK SCREEN

1. Tap center of screen to remove encrusted ash.
2. To replace spark screen, remove three screws holding screen housing to top of lid and remove inner parts.

INTERNAL SPARK DEFLECTOR

The deflector is held in position by tabs on two of its legs that trap the inner edge the drum lid and a cotter pin that attaches the third leg to the drum lid.

To remove the deflector, pry points of cotter pin up straight, hold them together with pliers and tap pin down through the deflector leg. Pull pin free with pliers.

When not in use, SmartAsh should be covered and stored indoors. Insert stir rod through porthole in drum. Store chain in accessories tray.

Load drum at burning site rather than wheel a loaded drum to the site.

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PROBLEM SOLVING

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PROBLEM	PROBABLE CAUSE	SOLUTION
Excessive smoke	Poor start	Remove lid. If fire is smoldering or burning weakly, restart with newspaper on top of load.
	Unsuitable or wet material	Remove or dump material. Restart with proper, dry load.
	Too much free oil has leaked from sorbents	Stop burn and add new absorbent materials to soak up excess oil.
Lid leaks	Clamps loose or not properly seated	Re-seat clamps and tighten.
	Bent drum lip	If severe, replace drum. If bent only on the underside, rotate drum so clamps fasten on the unbent section. Drum should be replaced at earliest convenience.
	Lid warped from exposure to excessive temperatures	Leaking area can usually be sealed by a vise grip welding clamp Model 9R or equivalent available in hardware stores. Drum should be replaced at earliest convenience.
Weak air flow	Clogged air filters.	Clean or replace air filters. See Page #19 for instructions.
	Air control not working properly	Check air control latch for proper operation.
	Motor failure	Remove motor cover, filter harness, and filter to expose motor. If power is on and motor does not turn, it will have to be replaced.
Saf-Start disengages with power supply switched on	Circuit overload	Reduce the number of items on the circuit or use another outlet on a different circuit. Reduce the length of the extension cord.
Lid sticks on drum	Drum is out of round.	Pull upward on one lid handle while tapping side of drum immediately below with hammer. Proceed to next handle and repeat until lid pulls free. To correct drum condition, see "Selecting Drum".
Unit does not start.	Saf-Start has not been engaged.	Engage Saf-Start. See Page #11 for instructions.

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RECOMMENDED BURNABLES

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Absorbents

1. Cellulose-base type: Good, clean burn resulting in very little ash.
2. Cotton: Good, clean burn as long as moisture content is low.
3. Polypropylene & Cotton Mix: Since this material is water-repellant, moisture content is not a problem. **WARNING: Some states only allow 20% by volume of poly products to be incinerated.**
4. Corn Cobs: Good burn as long as it is not overly saturated with fluid.
5. Saw Dust
6. Peat Moss: Hot, clean burn when it absorbs diesel or oil.

When burning these materials, it is helpful to line the drum with clean, dry absorbents. This will catch any fluids that leach out during operation of the unit. Always load the drum 2/3 full and add a proper amount (6-10 pages) of newspaper to start the incineration process. Light the newspaper, re-install the lid, and then adjust air flow to the "Run" position. The SmartAsh will incinerate approximately 50 pounds per hour. The burn time of the unit will depend on the absorbent type and volume loaded in the drum.

Hydrocarbons

1. All Types of Crude Oils: Extremely hot, clean burn when mixed with Cellulose, Cotton, Poly Cotton Mix, or Pete Moss absorbents. This can cause the lid assembly and drum to glow red from the extreme heat. Do not be alarmed as this is common with these types of fuels.
2. Used Motor and Waste Oils: Hot, clean burn when mixed with Cellulose, Cotton, or Poly Cotton Mix absorbents.
3. Transmission and Hydraulic Oils: Clean burn when mixed with Cellulose, Cotton, or Poly Cotton Mix.
4. Lubricating Greases: Best burn when mixed with Cellulose, Corn Cobs, or Saw Dust. The operator must thoroughly mix the absorbent with the grease. The bottom of the drum should be lined with clean, dry absorbents to catch any liquids formed while the unit is in operation.
5. Diesel Fuel #1, Diesel Fuel #2, and Kerosene: Very hot, clean burn when mixed with Cellulose, Cotton, Poly Cotton Mix, or Peat Moss absorbents.
6. Jet Fuels: These fuels burn with similar characteristics as Diesel Fuels and Kerosene and should be handled in the same manner.

The above fuels must be absorbed in a burnable type of absorbent. Materials to be incinerated must have a flash point higher than 100 degrees Fahrenheit (38 degrees Celsius). These fuels will burn very hot and typically very clean depending on the type and amount of absorbent used. To reduce the chance of smoking, the absorbent must not be overly saturated with fuels. To ensure a clean burn, work with the ratio of one pound of absorbent for each pound of fluid.

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RECOMMENDED BURNABLES

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Filters

1. Spin-on and Cartridge Oil Filters from Cars, Trucks, and Heavy Equipment: Requires a fuel source to properly incinerate. Burning is best achieved by burning with a load of used oily absorbents or wood products. These products burn very hot and will achieve the best results. After the burn is complete, the steel canister is all that remains. It should be recycled or disposed of in a landfill.
2. Air Filters of All Types: Burns good because most of these are paper-based and can sustain a flame on their own. All that is required to start and sustain the burn process is an ample supply of newspapers.
3. Poly & Fiberglass Ventilation Filters: Incineration is similar to the above listing. The only difference is in the ash created from burning fiberglass filter. It will be fist-sized clumps instead of a powder.
4. Natural Gas Pipeline Filters (Glycol Filters): Burns very hot. The fibers in this type of filter are impregnated with natural gas. All that is required to start and sustain the incineration process is an ample supply of newspapers.

Paper Products (An optional Document Burner is available for large amounts.)

1. Newspapers: Burn best when shredded. This allows for more air flow.
2. Office Waste: Burns good since there is always ample paper in the waste to start the burn process.
3. Cardboard: Burns very hot and fast. Newspapers are helpful in starting the incineration process.
4. Fast Food Paper Waste: For proper burn, material must be dry. Once dry, the lighting of the waste is all that is required to start the incineration process.
5. Computer Paper and Sensitive Documents: Burns good when stacked in the drum with no obstructions. The air flow in the drum picks up each individual paper and burns it completely.

Wood Products

1. Saw Dust: Burns good and will incinerate on its own. The addition of diesel fuel or waste oil will speed up the burn process and eliminate the need for disposal.
2. Construction Site Scrap and Shipping Pallets: Burns very good. All that is required to start the incineration process is a small amount of oil or diesel (No gasoline or paint thinner.) and some newspaper. This will create a fast start with little smoke.
3. Tree Limbs & Leaves: When burning, these items should be mixed if possible. The leaves will ensure the proper incineration of the tree limbs. Any yard waste material to be burned should be dried because the high moister content. Lighting of the leaves is all that is required to start the incineration process.

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RECOMMENDED BURNABLES

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Miscellaneous
1. Clothing 2. Gloves 3. Oily Rags 4. Packaging Materials These kinds of materials will burn very good. Moisture content must be low to ensure proper incineration. To start the process, it is necessary to add and light an amount of cardboard and newspapers to the top of the materials.
Plastics
This unit will incinerate a variety of plastics. An oily absorbent and plenty of newspaper will be required to start the actual incineration of the plastic. The plastic will melt down to a molten state, and then will burn very hot. Although the unit will incinerate plastics with no smoke, emissions are often not acceptable with individual state's air quality standards. **WARNING: Plastics should not be incinerated without approval from your state officials.**
Use of Liquid Oils/Diesel Fuels/Fuel Oils (An optional OilAway Attachment is available for large amounts.)
Successful testing has been completed for disposing of free oils containing no absorbent materials. Although care in loading the drum is needed, it is an alternative to mixing absorbent with the oil for disposal in SmartAsh. A maximum of 20 gallons of liquid per load is recommended. Some small pieces of wood material are required for the disposing of oils in this manner. Four to five pieces of 2"x4" material 6" in length is sufficient. The wood pieces are put into the unit and allowed to float on the oil and act as a wick to support the flame. The unit is ignited in the same fashion as other materials being disposed of in the unit. **CAUTION: Do not overload the drum (20 gallon maximum)! If the drum is overloaded during the incineration process, the oil will become hot and boil over, causing severe damage to the unit components.**